

## PLANTAE PAPUANAE ARCHBOLDIANAE, XIV\*

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THE Rubiaceae, brought together in the collections made by the Richard Archbold Expeditions and from other sources, is only one of the groups which we had hoped could be elaborated by our colleagues abroad. In all large families a specialist, familiar with details of classification, is always in a strategic position when it comes to rendering final opinions regarding the status and relationships of any particular form. As the present war deepened, it has been impossible for us to maintain our contacts with or to transmit specimens to our associates in Europe, who not only were willing to study the representatives of particular groups, but also were better qualified through accumulated knowledge and experience to handle the material more skilfully than we could possibly hope to do. Under these circumstances and with considerable reluctance on our part, we have undertaken a study of this and of certain other families of plants. It would seem to be particularly essential that we make accessible for future studies these plants already assembled, in view of the fact that there is a possibility of receiving supplementary collections from the Southwestern Pacific area; this can be done only by carrying the identifications in all groups as far as possible on the basis of literature and specimens available for study and comparison. The remaining genera of the Rubiaceae will be considered in another paper. In general, we have followed the work of Valetton rather closely, but we do not consider our efforts, as herein presented, in any sense as a monographic treatise.

## RUBIACEAE (in part)

*Bikkia* Reinwardt

*Bikkia Commersoniana* K. Schum. var. *latifolia* Valetton, Bot. Jahrb. 60: 3. 1925.

SOLOMON ISLANDS: Three Sisters: Aliti, *Brass* 2998, October 1932, sea beach, common (small tree 3-5 m. high; branchlets and leaves fleshy; corolla 4-angled, pale pink). New Guinea and the Bismarck Archipelago.

This specimen is an excellent match for *Warburg* 21495 from the Bismarck Archipelago. *Bikkia Bridgeana* F. v. Muell., (extra-print from) Vict. Nat. Feb. 1885, ought to be compared with this species and variety as well as with *B. Pancheri* (Brongn.) Guill. The latter, represented here by a single collection from New Caledonia, has been reported from the Solomon Islands, but it appears to be distinct from the material cited above.

*Dolicholobium* A. Gray

*Dolicholobium leptocarpum* sp. nov.

Arbor 10 m. alta; ramulis teretibus maturis glabris cinerascentibus;

\*Botanical Results of the Richard Archbold Expeditions. See Jour. Arnold Arb. 24: 422-439. 1943.

stipulis elongatis, 2–3.5 cm. longis adpresse villosulis et parce longe patenti-pilosis; foliis lanceolato-ellipticis, 12–21 cm. longis, 4–6.5 cm. latis, utrinque angustatis, basi cuneatis vel subobtusis, apice obtuse longiuscule acuminatis, supra glabris, subtus novellis dense maturis parce (costa nervisque dense) pilosulis, nervis lateralibus utrinsecus  $\pm$  16 patenti-adscendentibus marginem versus arcuatis, reticulo subtus manifesto; petiolo 1.5–2.5 cm. longo, adpresse villosulo et parce longe patenti-piloso; inflorescentiis in axillis superioribus; pedunculo  $\pm$  2 cm. longo ceterum ut petiolo; floribus  $\delta$  4, pedicellis sericeo-pilosulis, 1.5 cm. longis; calycis tubo 0.5 mm. longo, glabrato truncato ciliato; corolla in alabastro 1.5 cm. longa, glabra; flore  $\text{fem}$  centrali sessili, calycis limbo 1.5 (–3 in fructu) mm. longo utrinque pilosulo, margine 5-lobato, lobis 0.5 (–1) mm. longis; corolla glabra, tubo 11 mm. longo, lobis 1.7 cm. longis basi 3.5 mm. latis; antheris 2.5 mm. longis; stigmatis lobis (7 mm.) paullo stylo (6 mm.) longioribus; ovario 2.6 cm. longo adpresse villosulo; fructibus immaturis circiter 25 cm. longis et 1.5 mm. diametro, parce pilosulis sulcatis.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass 13887* (TYPE), April 1939, alt. 70 m., rain-forest on lower mountain slopes (substage tree 10 m. high; flowers white).

In the general habit and the glabrous corolla, the species suggests *Dolicholobium rubrum* Schlechter ex Valetton, but it differs in the smaller flowers and the very long slender fruits.

***Dolicholobium Kajewskii* sp. nov.**

Frutex 2 m. altus; ramulis teretibus, novellis pubescentibus cito glabratis; stipulis oblongis, 1.5–2.5 cm. longis, 0.5–0.9 cm. latis, novellis dense hirsutis, maturis glabratis; foliis ellipticis vel ovato-ellipticis, 7.5–12 cm. longis, 4–7 cm. latis, basi subrotundatis vel obtusis, apice obtusissime acuminatis, supra glabris, subtus costa nervisque parce pubescentibus (novellis supra fere glabris subtus dense adpresse villosis), nervis lateralibus utrinsecus 8 vel 9, venis inconspicuis; petiolo 1.5–3 cm. longo, parce hirsuto vel glabrato; pedunculo 1–2 cm. longo, pubescente; floribus  $\delta$  3 vel 4, pedicellis  $\pm$  1.5 cm. longis, adpresse pilosis; calycis limbo 1 mm. longo, glabro ciliato; corolla in alabastro adpresse pilosula, tubo 1.5 cm. longo gracili, lobis 1.5 cm. longis oblongo-linearibus; antheris 5 mm. longis; flore centrali  $\text{fem}$  sessili; calycis tubo 3.5 mm. longo, margine sinuato, adpresse pilosulo; corollae tubo 1 cm. longo extus pilosulo, lobis 2 cm. longis, linearibus; ovario 1.5 cm. longo, adpresse hirtello; stigmatis lobis spathulatis.

SOLOMON ISLANDS: Guadalcanal: Uulolo, Tutuve Mountain, *Kajewski 2577* (TYPE), April 1931, alt. 1200 m., rain-forest (shrub up to 2 m. high; young leaves very hairy; petals cream).

*Dolicholobium Kajewskii* differs from *D. solomonense* in the smaller leaves, hirsute stipules, and smaller flowers.

***Dolicholobium Brassii* sp. nov.**

Arbuscula; ramulis pallide brunneis glabris; stipulis oblongis anguste obtusiusculis, circiter 1.5 cm. longis et 4 mm. latis, margine ciliatis ceterum fere glabris; foliis lanceolato-ellipticis, 5–11 cm. longis, 2–5 cm. latis, utrinque angustatis, apice acutis vel breviter obtuse acuminatis, basi cuneatis, maturis utrinque glabris, juvenilibus supra glabris, subtus nervis et margine sericeo-pilosis; nervis lateralibus utrinsecus circiter 10 patenti-

adscendentibus versus marginem arcuatis; petiolo 1–2 cm. longo glabro; inflorescentiis in axillis superioribus; pedunculo 0.5–1.5 cm. longo; floribus ♂ 3 vel 4, pedicellis circiter 2 mm. longis; calycis limbo 1 mm. longo latoque, corollae tubo (in alabastro) 1.3 cm. longo, lobis 1 cm. longis, antheris 1 cm. longis; flore centrali ♀ subsessili; calycis limbo subcampanulato truncato vel minute 5-dentato, 3 mm. longo, 2.5 mm. lato, extus glabro intus adpresse piloso; corolla hypocrateriformi, tubo 1 cm. longo versus apicem extus parce pubescente, lobis 5 circiter 1 cm. longis vix 3 mm. latis, anguste oblongis obtusis, basi oblique anguste auriculatis, antheris 5 circiter 2 mm. longis; stigmatis lobis spathulatis inclusis; ovario adpresse pubescente, 1.5 cm. longo, lineari; capsulis immaturis 10–12 cm. longis, 1.5 mm. diametro, glabratis, leviter sulcatis.

SOLOMON ISLANDS: San Cristobal: Huru, *Brass* 3005 (TYPE), October 1932, lowlands (small river-bank tree; leaves very dull dark green; flowers white).

This species is readily recognized by the small flowers, the slender fruits, and its nearly glabrous character.

*Dolicholobium solomonense* sp. nov.

Arbuscula 4–5 m. alta; ramulis compressis, novellis pubescentibus; stipulis ellipticis, 1.5–2.5 cm. longis, 0.6–1 cm. latis, velutino-pubescentibus; foliis ellipticis vel leviter obovatis, 12–31 cm. longis, 5.5–17 cm. latis, basi obtusis, apice acuminatis, acumine 1–2 cm. longo 0.5–1 cm. lato, novellis villosulis cito glabratis, maturis supra glabris, subtus (costa nervisque dense) pilosis, nervis lateralibus utrinsecus  $\pm$  14 oblique adscendentibus, venis inconspicuis subclathratis; petiolo 2–6 cm. longo pubescente vel glabrato; pedunculo 1–2 cm. longo patenti-pubescente; floribus ♂ 4–7, pedicellis  $\pm$  2 cm. longis, pubescentibus; calycis limbo vix 1 mm. longo, glabrato; corolla in alabastro 3 cm. longa extus adpresse villosula; flore centrali ♀ sessili; calycis limbo 4 mm. longo latoque, extus glabrato margine ciliato; corolla hypocrateriformi, tubo 1 cm. longo adpresse piloso, lobis 2.5–3 cm. longis, in parte media 4 mm. basi 6.5 mm. latis, oblique auriculatis, antheris 3 mm. longis; stigmatis lobis spathulatis vix exsertis; ovario 2.3 cm. longo, 2 mm. lato, velutino.

SOLOMON ISLANDS: San Cristobal: Wainamura, *Brass* 2656, 2850 (TYPE), August, September, 1932, lowland rain-forests (slender tree 4–5 m. tall; leaves paler beneath; flower cream-colored).

In some features this species suggests *Dolicholobium Gertrudis* K. Schum., but the ♀ flowers are sessile rather than pedicellate.

*Dolicholobium ulawaense* sp. nov.

Arbor gracilis 10 m. alta; ramulis subangulatis glabris; stipulis obovato-ellipticis,  $\pm$  2.2 cm. longis et 1.3 cm. latis, apice rotundatis, utrinque pubescentibus cito glabratis, margine ciliatis; foliis obovato-ellipticis,  $\pm$  26 cm. longis et 16 cm. latis, basi obtusiusculis, apice abrupte brevissime et obtuse acuminatis, acumine 7 mm. longo latoque, supra glabris, subtus (costa nervisque dense) pilosis, nervis lateralibus utrinsecus  $\pm$  17 oblique adscendentibus, venis inconspicue clathratis; petiolo 3 cm. longo, pubescente vel glabrato; inflorescentiis in axillis superioribus; pedunculo 3 cm. longo, dense villosulo; floribus ♂ 9 vel 10, pedicellis glabratis 1–1.5 cm. longis; calycis limbo campanulato, 1 mm. longo, 1.5 mm. lato; corollae tubo 1.5 cm. longo, villosulo, lobis 1.5 cm. longis, antheris 4.5 mm. longis:

flore centrali ♀ sessili; calycis limbo extus glabrato intus dense pubescente, truncato, 4 mm. longo latoque; corolla hypocrateriformi, tubo 1 cm. longo, adpresse piloso, lobis 1.3–1.5 cm. longis in parte media 4 mm. latis (in alabastro extus adpresse villosulis) oblongo-lanceolatis, basi 6 mm. latis oblique auriculatis; antheris 2.5 mm. longis; stigmatibus lobis spatulatis paullo exsertis; ovario adpresse villosulo, 1.5 cm. longo, 3 mm. lato.

SOLOMON ISLANDS: U l a w a : *Brass* 2967 (TYPE), October 1932, alt. 200 m., rain-forest, common (slender tree 10 m. tall; flower white).

The species differs from the preceding chiefly in the relative size of the parts of the flower, *Dolicholobium solomonense* having very long almost ligulate corolla-lobes and a slender ovary, whereas *D. ulawaense* has shorter and broader corolla-lobes and a shorter broader ovary. There is also a difference in the size and the pubescence of the stipules.

***Dolicholobium callianthum* sp. nov.**

Arbuscula 6 m. alta; ramulis apicem versus subcompressis glabris; internodiis brevissimis; stipulis non visis; foliis obovatis, apice breviter obtuse acuminatis, acumine 1 cm. longo latoque, basi cuneatis, 25–30 cm. longis, 13–16 cm. latis, novellis 8–12 cm. longis, 3.5–5.5 cm. latis, utrinque adpresse villosis, maturis glabris vel subtus costa nervisque inconspicue pubescentibus; nervis lateralibus utrinsecus 10–14 patenti-adscendentibus marginem versus arcuatis, venis subclathratis; petiolo 2.5–3 cm. longo, glabro; pedunculo 5 mm. longo, villosulo; floribus ♂ pedicellatis, pedicellis 2–5 mm. longis ± villosulis; calycis tubo 2 mm. longo subglabro; corollae tubo in alabastro 2.5–3 cm. longo, adpresse villosulo, lobis ± 1 cm. longis; antheris 1 cm. longis; flore ♀ subsessili, calycis tubo 8 mm. longo, truncato, adpresse villosulo; corollae tubo 3–3.5 cm. longo extus adpresse villosulo, lobis 6 oblongis, 3.5 cm. longis, 1 cm. latis, intus supra faucem parce pubescentibus; antheris supra medium tubo insertis, 3 mm. longis; ovario 2.5 cm. longo, dense adpresse villosulo; stigmatibus lobis oblongo-clavatis; capsulis (fide Kajewski) 20 cm. longis, 6 mm. diametro.

SOLOMON ISLANDS: G u a d a l c a n a l : Uulolo, Tutuve Mountain, *Kajewski* 2655 (TYPE), May 1931, alt. 1200 m., rain-forest (small bushy tree 6 m. high; young leaves covered with silky hair; flowers white, very showy, pleasantly scented; fruit 20 cm. long, 6 mm. diameter).

This species is closely related to *Dolicholobium acuminatum* Burck., differing in the longer pubescence on the lower surface of the young leaves and also in the calyx. This is longer and narrower than in Burkill's species and truncate; both differ from the other Solomon Islands species in that the ♂ flowers have pedicels considerably shorter than the ovary of the ♀ flower in the same cluster.

***Coptosapelta* Korthals**

***Coptosapelta Carrii* sp. nov.**

Planta scandens; ramulis, petiolis et inflorescentiis crispe tomentosis; foliis ellipticis, 5–8 cm. longis, 2.5–4.5 cm. latis, basi rotundatis vel obtusis, apice abrupte et anguste acuminatis, acumine 5–10 mm. longo, chartaceis vel tenuiter coriaceis, supra glabris costa interdum crispe pilosulis, subtus (costa nervisque ± dense) crispe pilosulis, nervis primariis utrinsecus 3 arcuatim adscendentibus, supra impressis subtus prominulis, reticulo utrinque manifesto; stipulis inconspicuis, triangularibus, circiter 2 mm.

longis, subtomentosis; petiolo 5–8 mm. longo; inflorescentiis brachiatis terminalibus vel in axillis superioribus 3–?5 cm. longis, floribus subsessilibus vel breviter pedicellatis; calycis lobis ovatis obtusis 0.6–0.8 mm. longis, subtomentosis; ovario dense subtomentoso globoso, 2 mm. longo; corollae lobis  $\pm$  6 mm. longis oblongis acutiusculis, supra glabris, subtus partim adpresso-pilosulis, tubo circiter 5 mm. longo adpresso-pilosulo, intus glabro fauce retrorse pilosa excepta; filamentis 2 mm. longis dense patenti-pilosulis, antheris 4 mm. longis dorso adpresso-sericeo-pilosulis; disco 5-lobato; stylo 9 mm. longo.

BRITISH NEW GUINEA: Koitaki, *Carr 12613* (TYPE in Herb. N.Y.B.G.), June 1935, alt. 450 m. (climber in forest; flowers white).

The leaves resemble those of *Coptosapelta flavescens* Korth. in their pubescence on the lower surface; the flower is like that of *C. hameliaeblasta* (Wernh.) Val. except that the corolla is smaller. The 5-lobed disk is perhaps a distinctive feature.

### Badusa A. Gray

*Badusa corymbifera* (Forst. f.) A. Gray, Proc. Amer. Acad. 4: 308. 1859; Gillespie, Bishop Mus. Bull. 74: 28. f. 37. 1930.

*Cinchona corymbifera* Forst. f. Nova Acta Reg. Soc. Sci. Ups. II. 3: 176. 1780, Prodr. no. 88. 1786.

SOLOMON ISLANDS: Y s a b e l: Cape Prieto, *Brass 3472*, January 1933, alt. 150 m., open hillsides, common (tall shrub or very slender small tree 2–3 m. tall; leaves pale with whitish midribs and nerves; flower pale pinkish white).

Polynesia. Forster's material was collected "intra tropicos in insulis Tongatabu et Eaoowe maris pacifici." The genus occurs in the Palau Islands, the New Hebrides, Fiji, and the Tonga Islands; new to the Solomon Islands.

### Nauclea Linnaeus

(*Sarcocephalus* Afzelius)

*Nauclea tenuiflora* (Havil.) Merrill, Jour. Wash. Acad. Sci. 5: 537. 1915; Kaneh. & Hatus. Bot. Mag. Tokyo 53: 13. 1939.

*Sarcocephalus tenuiflorus* Haviland, Jour. Linn. Soc. Bot. 33: 32. 1897; Valetton, Bot. Jahrb. 60: 47. 1925.

NETHERLANDS NEW GUINEA: Bernhard Camp, Idenburg River, *Brass 11854, 14033*, January (flowering material) and April (fruiting material) 1939, alt. 50 m., rain-forest of river flood-plain, plentiful on banks of creeks (tree 4–6 m. tall; flowers white). Northeastern New Guinea.

### Neonauclea Merrill

*Neonauclea papuana* (Val.) comb. nov.

*Nauclea papuana* Valetton, Nova Guin. Bot. 8: 449. 1911; op. cit. 14: 258. 1925.

BRITISH NEW GUINEA: Palmer River, 2 miles below junction Black River, *Brass 6955, 7336*, June, July 1936, alt. 100 m., common along banks of river; one of the principal components of the older seral forests on silt-loams along river (tree attaining 25 m.; flower-heads white or cream-colored,  $\pm$  5 cm. diameter). Previously collected in Netherlands New Guinea.

*Neonauclea Schlechteri* (Val.) comb. nov.

*Nauclea Schlechteri* Valetton, Bot Jahrb. 60: 50. 1925.

NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 12595*, February 1939, alt. 1200 m., on slope of ridge in primary

forest, rare (tree 20 m. high, with brown bark; flower-buds light green; fruit green-brown); 2 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 13534*, April 1939, alt. 650 m., occasional in primary forest (tree 17 m. high, bark black, scaly; flowers white).

These collections agree reasonably well with an isotype of this species; also two sterile or fragmentary specimens collected on Japen Island by the Netherlands Indies Forest Service (*bb. 30534, bb. 30551*) may belong here. The type of *Neonauclea tenuis* (Havil.) Merr. ought to be compared with this species; Valeton points out the likeness, and the differences seem to be variable.

*Neonauclea maluensis* (Val.) S. Moore, Jour. Bot. 65: 242. 1927.

*Nauclea maluensis* Valeton, Bot. Jahrb. 60: 51. 1925.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass 11077*, November 1938, alt. 2200 m., secondary forest, rare (tree 12 m. high); 15 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 11922*, January 1939, alt. 1720 m., occasional in rain-forest on steep slopes (tree 32 m. high; flowers yellow-green). Described from Northeastern New Guinea.

*Neonauclea Dahlii* (Val.) comb. nov.

*Nauclea Dahlii* Valeton, Bot. Jahrb. 60: 51. 1925. Known only from the Bismarck Archipelago.

*Neonauclea obversifolia* (Val.) comb. nov.

*Nauclea obversifolia* Valeton, Bot. Jahrb. 60: 52. 1925. Type from Northeastern New Guinea.

*Neonauclea Versteeghii* sp. nov.

Arbor 22 m. alta; ramulis brunnescentibus glabris cortice sulcato-ruguloso; internodiis 5–10 cm. longis; stipulis obovato-ellipticis, 2.5 cm. longis, vix 1.5 cm. latis, basim versus consperse hirtellis; foliis suborbicularibus vel late ellipticis, (10 × 9.5 cm.) usque 24–34 cm. longis et 23–25 cm. latis, basi rotundatis vel interdum obtusis breviter decurrentibus, apice rotundatis vel obtusis vel inconspicue breviter acuminatis, acumine [si adsit] vix 5 mm. longo latoque, valde chartaceis vel subcoriaceis, supra glabris, subtus novellis lamina consperse, costa nervisque densius puberulo-hirtellis, maturis costa nervisque tantum consperse puberulo-hirtellis, nervis primariis utrinsecus 8–10 supra distinctis, subtus perspicuis, oblique patentibus prope marginem arcuatim conjunctis, venis clathratis, venulis inconspicuis; petiolo 1.5–6 cm. longo, glabro; capitulis florentibus non visis, fructiferis 2.5–3 cm. diametro; pedunculis 3.5–5 cm. longis glabris compressis angulatis; bracteis 3–5 mm. sub apice non visis; calycis lorum partibus deciduis 4.5–5 mm. longis fusiformibus, parte inferiore adpresse sericeo-pubescente apice (circiter 1 mm.) obtuse acuminata brunnescente, partibus persistentibus 1.5 mm. longis pubescentibus; coccis 6 mm. longis, receptaculo hirsuto.

NETHERLANDS NEW GUINEA: 2 km. southwest of Bernhard Camp, Idenburg River, *Brass & Versteegh 13509* (TYPE), March 1939, alt. 700 m., frequent in primary forest on slopes (tree 22 m. high; bark brown, scaly; fruit green-brown).

This species appears to be nearest to *Neonauclea cyclophylla* (Miq.) Merr., according to the description, but the fruiting heads are smaller in the New Guinea material, and the leaves are of somewhat different shape.

*Neonauclea perspicuinervia* sp. nov.

Arbor 20–25 m. alta; ramulis cinereo-brunnescentibus glabris; inter-

nodis superioribus 1.5–2 cm. longis; stipulis glabris ellipticis, 1.5 cm. longis, 0.9 cm. latis; foliis subcoriaceis glabris late ellipticis, (9–) 18–38 cm. longis, (7.5–) 13–22 cm. latis, basi rotundatis vel obtusis deinde brevissime cuneatis vel leviter decurrentibus, apice obtusis et abrupte acuminatis, acumine 5–9 mm. longo, 3–5 mm. lato, obtuso, venis primariis utrinsecus 9–11 utrinque perspicuis, subtus in axillis domatia ferentibus, patentibus adscendentibus prope marginem arcuatis, venis clathratis utrinque manifestis, reticulo manifesto; petiolo 2–4.5 cm. longo glabro; capitulis immaturis 3.5 cm. diametro; pedunculo 2.5–3 cm. longo, bracteis sub apice non visis; calycis loborum partibus deciduis 7–8 mm. longis, elongato-cuneato-clavatis, apice obtusis cum acumine, villosulis, versus acuminem pilis brevissimis, partibus persistentibus subadpresso villosulis; corolla glabra 1.5 cm. longa tubulato-infundibulari, lobis ellipticis obtusis 2 mm. longis; antheris in fauce, oblongis obtusis; stylo 2.5 cm. longo.

NETHERLANDS NEW GUINEA: Patema, 40 km. from Nabire, *Kanehira & Hatusima* 12387 (TYPE), March 1940, alt. 300 m., rain-forest (common tree 20 m. high); Bernhard Camp, Idenburg River, *Brass & Versteegh* 13557, April 1939, alt. 300 m., frequent in rain-forest of slopes (tree 25 m. high, with thick grey scaly bark; wood yellow-brown; flower-buds green).

*Neonauclea perspicuinervia* is probably related to *N. Hagenii* Lauterb. & K. Schum. but differs from the latter in its larger leaves, oblong-elliptic obtuse stipules, and the different shape of the calyx-appendages. The peduncle has two scars, one just under the head, and one near the middle of the peduncle.

*Neonauclea cardiophylla* sp. nov.

Ramuli novelli  $\pm$  hirtelli complanati; internodiis 6–9 cm. longis sub nodis dense hirtellis; stipulis non visis; foliis cordiformibus vel late ovatis basi subcordatis apice abrupte acuminatis, 20–22 cm. longis, 18–20 cm. latis, acumine circiter 1.5 cm. longo obtuso, supra glabris, subtus lamina consperse costa venisque dense pilosulis, pilis  $\pm$  patentibus vel subadpressis, nervis primariis utrinsecus circiter 9 supra obviis subtus prominulis, venis clathratis manifestis, reticulo inconspicuo; petiolo 3–4 cm. longo glabrato; foliis inflorescentiam subtendentibus 3.5–6 cm. longis 2–3 cm. latis ovatis basi decurrentibus apice acutiusculis, petiolo brevissimo; inflorescentiis terminalibus; pedunculo 2–5 cm. longo; bracteis sub apice cito caducis; capitulis immaturis 2.5 cm. diametro; calycis loborum partibus deciduis 4 mm. longis clavatis apice subtruncatis dense sericeo-pilosulis, pilis adpressis, partibus persistentibus adpresso pilosulis; corolla glabra (alabastro tantum viso); ovario glabro.

SOLOMON ISLANDS: Bougainville: *Waterhouse* 24 (TYPE), April 1932.

In the characters of the flower-head perhaps nearest to *Neonauclea perspicuinervia* Merr. & Perry, but the species is readily distinguished from the latter by the cordate leaves with pubescent lower surface. The leaves subtending the inflorescence are much smaller than the foliar ones and are regarded by some authors as bracts; they are distinctly foliar in character but somewhat different in shape from the larger ones.

*Uncaria* Schreber

*Uncaria bernaysioides* sp. nov.

Frutex scandens (?), magnus; ramulis argute tetragonis fere alatis,

novellis parce pubescentibus; foliis ellipticis, 10–13 cm. longis, 4.5–7 cm. latis, basi rotundatis, apice acuminatis, acumine obtuso 8–10 mm. longo, supra glabris subtus nervis venisque parce inconspicue pubescentibus in axillis barbatulis; nervis primariis utrinsecus 8–10 oblique adscendentibus marginem versus arcuatis, supra impressis subtus perspicuis, venis supra subobscuris subtus prominulis, venulis fere obscuris; petiolo  $\pm$  7 mm. longo parce pubescente vel glabro; stipulis persistentibus reflexis rotundatis bilobatis, circiter 1 cm. longis, glabris; uncis non visis; pedunculo 3–4.5 cm. longo, infra articulationem compresso parce pubescente (2.5–3 cm. longo), supra subtereti (1 cm. longo) dense pubescente; bracteis 2–3-lobatis vel 2–3-fidis, glabris vel parce pubescentibus; receptaculo subgloboso, 3–4 mm. diametro, villosulo; capitulo, stylis non inclusis,  $\pm$  5 cm. diametro; floribus pedicellatis; pedicellis 5 mm. et ovario oblongo-clavato 3 mm. longis, dense pilosulis; calyce sericeo-pubescente, tubo 2 mm. longo, lobis 3.5–4 mm. longis, lineari-oblongis crassiusculis, apice truncatis; corolla extus pubescente, tubo circiter 10 mm. longo versus apicem paullo dilatato, lobis 3 mm. longis, 1.5 mm. latis, apice rotundatis; antheris 2.5 mm. longis; stylo 2.3–2.5 cm. longo, stigmatе breviter clavato, 2 mm. longo.

NETHERLANDS NEW GUINEA: 4 km. southwest of Bernhard Camp, Idenburg River, *Brass 13602* (TYPE), March 1939, alt. 850 m., common in seral rain-forest on banks of river (large scrambling shrub; flowers pale yellow).

This species strongly resembles *Uncaria Bernaysii* F. v. Muell. as represented in the collections by *Brass 7439*, one of the chief components of seral shrubberies on river-banks (large scrambling shrub; flowers yellow-brown) at Oroville Camp, Fly River (30 miles above D'Albertis Junction). The two differ in the following: von Mueller's species is glabrous, with larger and broader leaves, characterized by inconspicuous venation, and smaller flowers (ovary about 2.5 mm., calyx-tube 1.5 mm., lobes 2.5–3 mm., corolla  $\pm$  11 mm., style 1.5 cm. with narrowly elongate-clavate stigma about 3 mm. long).

*Uncaria Valetonia* nom. nov.

*Uncaria inermis* Valeton, Nova Guin. 8: 454. 1911, Bot. Jahrb. 60: 57. 1925, non Willd. (1793).

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass 7485*, August 1936, abundant in rain-forests (large canopy liane; flower-clusters brown). SOLOMON ISLANDS: San Cristobal: Puepue River, *Brass 2791*, September 1932, riverine rain-forests on lowlands (stiffly branched climber; leaves paler beneath; flower-heads on very stiff peduncles; flowers green).

Type from Netherlands New Guinea; reported also from Northeastern New Guinea. Valeton's specific name is invalidated by the earlier one of Willdenow.

*Uncaria sterrophylla* sp. nov.

Frutex scandens(?) magnus; ramulis argute tetragonis glabris in sicco castaneis; foliis ovato-ellipticis, 5–8 cm. longis, 3.3–5 cm. latis, basi obtusis vel rotundatis, apice acuminatis, acumine  $\pm$  1 cm. longo obtuso, coriaceis, supra subnitidis, utrinque glabris, subtus in axillis barbatulis, nervis primariis utrinsecus 5 vel 6 patenti-adscendentibus marginem versus arcuatis, venis subobscuris, venulis sub lente dense reticulatis; petiolo  $\pm$  5 mm. longo glabro; stipulis caducis bifidis rotundatis vel obtusiusculis, circiter



1 cm. longis et 1.5 cm. latis, glabris; uncis gracilibus arcte curvis; pedunculo infra articulationem 1.3–1.7 cm. longo glabro, supra 1 cm. longo dense pubescente; bracteis trifidis; capitulo in fructu  $\pm$  7 cm. diametro; floribus pedicellatis; pedicellis vix 1 cm. (–2 cm. in fructu) et ovario oblongo 3 mm. longis, dense pilosulis; calyce infundibuliformi subsericeo,  $\pm$  3 mm. longo, fere ad medium fisso, lobis oblongis obtusis; corolla (marcida?) 1 cm. longa extus cineraceo-pubescente, lobis circiter 1.5 mm. longis recurvis; antheris in faucis margine obtusis, 1.6 mm. longis; stigmatibus longiuscule exserto anguste clavato; capsulis fusiformibus,  $\pm$  1.3 cm. longis.

NETHERLANDS NEW GUINEA: Bele River, 18 km. northeast of Lake Habbema, *Brass* 11450 (TYPE), November 1938, alt. 2200 m., common in second growth forest on banks of river (large scrambling shrub).

The species suggests *Uncaria avenia* Val. in the tetragonous branchlets, the size of the leaves, and the faint venation; in the latter species, however, the petiole is much longer, the calyx is smaller, and the capsule has a considerably shorter stalk.

*Uncaria salomonensis* (Rechinger) comb. nov.

*Uruparia* (*Ouruparia*) *salomonensis* Rechinger, Repert. Sp. Nov. 11: 187. 1912, Denkschr. Math.-Naturw. Kais. Akad. Wiss. Wien 89: 607 (repr. 165). t. 6, f. 12b. 1913.

Possibly the material which we describe below as *Uncaria glabrescens* ought to have been placed here, but we have separated them on account of the following characters given in Rechinger's description: branchlets and leaves glabrous; ovary densely white-tomentose; corolla pilose; in addition the flower-heads shown in the illustration are about twice as large as those of *U. glabrescens*. An unusual character in the description is "staminibus tubo fere aequilongis, antheris corolla inclusis." Ordinarily the stamens are scarcely as long as the corolla-lobes and are situated around the margin of the throat.

*Uncaria avenia* Valetton, Bot. Jahrb. 60: 59. 1925, vel aff.

BRITISH NEW GUINEA: Lake Daviumbu, Middle Fly River, *Brass* 7650, 7915, September 1936, scrambling shrub on floating islands in lake, flowers green.

These collections appear to be nearest to the description of *Uncaria avenia* Val. The branchlets are obtusely tetragonous, and the stipules have already fallen. The leaves are coriaceous rather than membranaceous and glabrous but show minute domatia in the angles formed by the larger veins. Hooks too are present, the upper ones being much shorter than those lower on the branchlets.

*Uncaria philippinensis* Elmer, Leafl. Philip. Bot. 1: 38. 1906; Merr. Enum. Philip. Fl. Pl. 3: 510. 1923.

SOLOMON ISLANDS: Malaita: Quoimonapu, *Kajewski* 2335, December 1930, rain-forest at sea level (vine); Guadalcanal: Mamassa, Konga, *Kajewski* 2475, February 1931, alt. 400 m., vine in rain-forest. Philippine Islands.

*Uncaria glabrescens* sp. nov.

Frutex scandens; ramulis obtuse angulatis consperse pilosis vel glabratis in sicco castaneis; foliis ovato-ellipticis, 6.5–9 cm. longis, 2.5–5 cm. latis, basi obtusis vel subrotundatis, apice acuminatis, acumine circiter 1 cm. longo, supra costa consperse pilosa ceterum glabris, subtus costa nervisque

$\pm$  pilosis, in axillis nervorum barbatulis, nervis primariis utrinsecus 6 vel 7 oblique adscendentibus versus marginem leviter arcuatis, venis supra obscuris, subtus manifestis, reticulo compacto inconspicuo; petiolo 5–8 mm. longo  $\pm$  pilosulo; stipulis cito caducis (non visis); uncis gracilibus brevibus leviter curvis; pedunculo infra articulationem 1–2 cm. longo pilosulo, supra 5 mm. longo dense pilosulo; bracteis trifidis glabratis; capitulo post anthesin circiter 1 cm. diametro; floribus pedicellatis; pedicellis vix 2 mm. et ovario 1 mm. longis, sparsim pilosulis, calyce glabro obconico  $\pm$  2 mm. longo, ad medium fissio, lobis oblongis acutiusculis; corolla 1 cm. longa glabra, lobis 1.5 mm. longis recurvis; antheris in faucis margine, 1.2 mm. longis; stigmatibus longiuscule exserto clavato; stylo  $\pm$  15 mm. longo.

SOLOMON ISLANDS: Bougainville: Siwai, *Waterhouse 140* (TYPE), November 1932 (trailing shrub).

This species reminds one of *Uncaria philippinensis* Elmer, but in the latter the peduncles are much longer, the calyx-lobes are persistently pubescent, and the corolla has somewhat broader lobes.

### Mussaenda Linnaeus

*Mussaenda cylindrocarpa* Burck, Ann. Bot. Jard. Buitenz. 3: 118. t. 17. 1883; Valetton, Nova Guin. 8: 456. 1911, op. cit. 14: 259. 1925, Bot. Jahrb. 60: 61. 1925.

NETHERLANDS NEW GUINEA: Hollandia, *Brass 8901A*, June 1938, alt. 10 m., occasional on gravel-beds in river; Bernhard Camp, Idenburg River, *Brass 13272*, March 1939, alt. 850 m., occasional on sandy river-banks. BRITISH NEW GUINEA: Fly River, 528-mile Camp, *Brass 6733*, May 1936, soft-wooded shrub in rain-forest second growths; Palmer River, 2 miles below junction Black River, *Brass 7346*, July 1936, alt. 100 m., semi-shade on slopes of eroding clay banks of river (spreading shrub 1 m. high; flowers yellow; enlarged calyx-lobe white; fruit smooth, cylindrical).

As Valetton has already indicated, this species is exceedingly variable as to leaf-size and pubescence. In the Fly River material the leaves are 9–19 cm. long, 2.5–5 cm. broad, and almost caudate-acuminate, but the inflorescence does not differ essentially from that which is characteristic of the collections from Northeastern New Guinea and the Solomon Islands.

*Mussaenda ornata* S. Moore, Jour. Bot. 65: 243. 1927, in White, Jour. Arnold Arb. 10: 267. 1929.

BRITISH NEW GUINEA: Fly River, 528-mile Camp, *Brass 6628*, May 1936, alt. 80 m., climbing shrub in rain-forest second growth.

There are some slight differences between this collection and the isotype of *Mussaenda ornata* S. Moore. All parts of the specimen are a little more pilose-villous than on the isotype; the leaves are oblong or oblong-elliptic, 11–17  $\times$  4–6 cm., with 10–14 primary nerves on either side of the midrib; the stipules are acuminate; and the calyx is 2 cm. long.

*Mussaenda aestuarii* K. Schum. in K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Süds. Nachtr. 394. 1905; Valetton, Bot. Jahrb. 60: 65. 1925.

BRITISH NEW GUINEA: Ononge Road, Dieni, *Brass 3896*, April 1933, alt. 500 m., shrub in roadside re-growths (leaves shining, paler above; corolla cream-colored, the lobes yellow inside; enlarged calyx-lobe white); same locality, *Brass 3947*, May 1933, alt. 500 m., common in rain-forests (very large liane; smooth shining pale leaves; inside of corolla-lobes yellow; enlarged calyx-lobe white).

Except for the fact that this plant appears to be dioecious (the first col-

lection ♀, the second ♂), it agrees very well with the two descriptions cited above. The species was described from Northeastern New Guinea, and previously has been known only from the original collection.

*Mussaenda oreadam* Wernh. in Ridl. Trans. Linn. Soc. II. Bot. 9: 70. 1916.

BRITISH NEW GUINEA: Mt. Tafa, *Brass 5040*, September 1933, alt. 2400 m., liane ascending to tops of valley forest trees, not common (branches stiff, erect above, supporting tree-top; leaves shining and nerves impressed above; corolla-lobes bright yellow inside, paler outside and green-veined, the tube pale yellow; enlarged calyx-lobe cream-colored; flower "honeysuckle"-scented).

The leaves are 3–10 × 2–7 cm., in outline ovate-orbicular rather than elliptic or oblong; apart from this feature, the collection corresponds too closely with the description of the above species to place it elsewhere without comparing it with the original from Netherlands New Guinea.

*Mussaenda brachygyna* sp. nov.

Planta scandens; ramulis novellis minute pubescentibus, lenticellatis; foliis subcoriaceis ellipticis, 3–10 cm. longis, 1.4–5 cm. latis, basi subrotundato-cuneatis, apice subabrupte breviter obtuse acuminatis, acumine vix 5 mm. longo, supra glabris vel costa minute pubescente, subtus costa nervisque adpresse sparsim pubescentibus, nervis lateralibus utrinsecus ± 8 arcuato-adscendentibus, supra impressis subtus conspicuis, reticulo supra impresso, subtus distincto; petiolo 0.7–2 cm. longo, minute pubescente; stipulis 3 mm. longis, lanceolatis acuminatis, apice bifidis; inflorescentiis terminalibus cymosis laxifloris breviter pedunculatis, ramulis brevibus; floribus pedicellatis, pedicellis et ovario brevissimo vix 4 mm. longis adpresse pubescentibus; calycis lobis lineari-lanceolatis, ± 4 mm. longis, sparsim pubescentibus, sepalo phyllomorpha 0.6–1 cm. petiolato, orbiculari-ovato, obtusiusculo, 3–4.5 cm. longo, 2–4 cm. lato, subtus nervis pubescente; corollae tubo 4–4.5 cm. longo basim versus sparsim superne densius adpresse pubescente, fauce paullo dilatato tubuloso, 9 mm. longo, intus hirsuto, lobis oblongis subtus pubescentibus, supra papillatis, 9 mm. longis, acutiusculis; antheris 7 mm. longis, apice circiter 2 mm. infra faucis marginem; stylo 9 mm. longo, glabro, apice bifido; fructibus ellipsoideis lenticellatis, ± 2 cm. longis, 1–1.3 cm. diametro.

BRITISH NEW GUINEA: Fly River, 528-mile Camp, *Brass 6590* (TYPE), 6756, May 1936, alt. 80 m. (large canopy liane; upper surface of leaves shining; flowers orange-yellow); Lake Daviumbu, Middle Fly River, *Brass 7500*, August 1936 (large scandent shrub ascending to tops of lesser canopy trees).

This species ought to be compared with the very fragmentary type of *Mussaenda Bevani* F. v. Muell. The latter consists of a single stunted leaf and an inflorescence, and no measurements were given in the original description. Since the magnification of the figures of the plate are also indefinite, it is difficult to suit either the description or the plate to specimens. Our species differs from the figures of the plate in the relative proportion of the corolla-tube and lobes; also the ovary is so short and inconspicuous as to suggest that the flowers are only staminate, but a dissection shows them to be perfect.

*Mussaenda Ridleyana* Wernh. Trans. Linn. Soc. II. Bot. 9: 70. 1916; Val. Nova Guin. Bot. 14: 261. 1925.

NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River,

*Brass* 12877, February 1939, alt. 1200 m., very common and conspicuous rain-forest canopy liane; 4 km. southwest of Bernhard Camp, Idenburg River, *Brass* 13065, March 1939, alt. 850 m., common along river-banks (large scrambling shrub).

In these collections the primary veins are ascending; the calyx-lobes vary in length (3–6 mm.), and the corolla-lobes are a little shorter (6 mm.) than in the original description, tending to be ovate-lanceolate rather than oblong.

***Mussaenda Kajewskii* sp. nov.**

Frutex 5–6 m. altus; ramulis novellis hirtellis deinde glabratis pallide brunneis; foliis chartaceis ellipticis, (6–) 10–18 cm. longis, (3–) 5–7 cm. latis, utrinque angustatis, apice acuminatis, basi anguste cuneatis, supra consperse pilosulis (pilis brevibus), costa nervisque hirtellis, subtus consperse (costa et nervis et venis dense) hirtellis, nervis lateralibus utrinsecus 7–12 oblique adscendentibus, supra inconspicuis, subtus prominulis, venis subtus manifestis, reticulo obscuro; petiolo (1–) 1.5–3.5 cm. longo, dense hirtello; stipulis cito caducis (non visis); inflorescentiis cymosis amplis, 5 cm. longis, 12 cm. latis, ramis divaricatis, ramis et ramulis et pedicellis hirtellis; pedicellis 2–3 mm. longis; sepalis lineari-lanceolatis, 2–2.4 mm. longis, utrinque hirtellis, sepalo phyllomorpha orbiculari-ovato, circiter 3.5 cm. longo, 2.5–3 cm. lato, obtuso, supra puberulo, subtus pilosulo; corollae tubo 2.5 cm. longo,  $\pm$  crispe pubescente, fauce 8 mm. longa intus hirtella; lobis late ovatis, 4 mm. longis, apiculatis, supra dense papillatis, subtus dense pubescentibus (subhirtellis); antheris 5.5 mm. longis; stylo fere 2.5 cm. longo, glabro; ovario 3 mm. longo, hirtello; fructibus ovalibus, circiter 1.3 cm. longis, 0.8–1 cm. diametro, glabratis copiose lenticellatis.

SOLOMON ISLANDS: Guadalcanal: Berande, *Kajewski* 2455 (TYPE), January 1931, rain-forest, common (shrub up to 5–6 m. tall; flowers with cream-colored petals and petaloid sepal; fruit brown when ripe, covered with corky pustules, 1.1 cm.  $\times$  1 cm.).

The species is perhaps nearest to *Mussaenda philippica* A. Rich. but may be distinguished by the more obtuse inconspicuously apiculate flower-buds, the shaggier pubescence, the obscure reticulation of the leaves, and the somewhat smaller fruits.

*Mussaenda philippica* A. Rich. Mém. Soc. Hist. Nat. Paris 5: 245. 1834; Merr. Enum. Philip. Fl. Pl. 3: 519. 1923.

SOLOMON ISLANDS: Bougainville: Kupei Gold Field, *Kajewski* 1666, April 1930, alt. 100 m., rain-forest (vine; fruit green, oblong, 1.6 cm.  $\times$  0.9 cm.); Ysabel: Meringe, *Brass* 3538, December 1932, alt. 200 m., rain-forest clearings (common large rambling shrub); Owa Riki: without further locality, *Brass* 3075, October 1932, common; rain-forest regrowths (large straggling shrub; flower velvety brown).

These collections do not seem to vary greatly from the Philippine material.

***Mussaenda ovata* sp. nov.**

Planta 3 m. alta; ramulis brunnescentibus hirtellis vel subtomentosis; foliis anisophyllis, majoribus 8–15 cm. longis, 4.5–10.5 cm. latis, minoribus 2–11 cm. longis, 1.5–6 cm. latis, ovatis vel ovato-ellipticis, apice acuminatis, acumine 0.7–1 cm. longo, basi rotundatis vel rotundatis deinde breviter cuneatis, supra sparsim (costa nervisque densius) pubescentibus, subtus sparsim (costa, nervis et venis dense) hirtellis, nervis lateralibus utrinsecus 7–10 patentibus prope marginem arcuatis, supra

distinctis, subtus subprominulis, venis manifestis, reticulo laxo inconspicuo; petiolo 1–4.5 cm. longo subtomentoso; stipulis 8 mm. longis utrinque adpresse hirtellis, acuminatis; inflorescentiis terminalibus laxis sessilibus ramosis; ramulis et pedicellis hirtello-tomentosis; calycis lobis subulatis breviter hirtellis  $\pm$  7 mm. longis, sepalo phyllomorpha 5 cm. longo, lanceolato, 1 cm. petiolato; corollae tubo 5–6 cm. longo adpresse pubescente, intus supra medium hirtello, lobis ovatis apiculatis 1 cm. longis, supra papillatis, subtus adpresse pubescentibus; antheris 1 cm. longis, in medio tubo insertis; stylo 5 cm. longo supra antheris leviter dilatato complanato bifido; ovario 8 mm. longo hirtello subcylindrico; fructibus immaturis obovoideis, 1.7 cm. longis, 0.8 cm. diametro.

NORTHEASTERN NEW GUINEA: Nabire, *Kanehira* & *Hatusima* 11620 (TYPE), February 1940, alt. 20 m., margin of rain-forest (3 m. high; flowers yellow).

*Mussaenda ovata* superficially suggests some likeness to *M. Kanehirae*, but the fruit is not cylindrical, the anthers are attached in the middle of the corolla-tube, and the corolla-lobes are only apiculate rather than caudate-acuminate.

*Mussaenda Kanehirae* sp. nov.

Ramuli novelli hirtelli lenticellati brunnescentes vel viridescentes; foliis ellipticis, 15–20 cm. longis, 7–10 cm. latis, utrinque angustatis, apice acuminatis, acumine 1–1.5 cm. longo, basi cuneatis, supra viridescens, costa sparsim pubescente, subtus cinerascens, costa et nervis et venis molliter hirtellis, nervis lateralibus utrinsecus 9 vel 10 supra manifestis, subtus distinctis non prominulis, venis supra inconspicuis subtus manifestis, reticulo subobscuris; petiolo 0.8–5 cm. longo, dense hirtello; stipulis 6–8 mm. longis, anguste triangularibus, acuminatis apice bifidis utrinque adpresse hirsutis; inflorescentiis terminalibus cymoso-paniculatis pedunculatis; axi, ramulis et pedicellis hirtellis; pedicellis 1–2 (–4 in fructu) mm. longis; calycis lobis subulatis 2–3 mm. longis sparsim hirtellis, sepalo phyllomorpha 1.5–2.5 cm. petiolato, elliptico, 3.5–5 cm. longo, 3–4 cm. lato, utrinque angustato, apice acuminato, supra glabrato subtus costa nervisque breviter hirtello; corollae tubo extus breviter hirtello 4–4.5 cm. longo, versus apicem dilatato (11 mm.) intus hirsuto deorsum glabro, lobis ovatis, 8 mm. longis, apice caudato-acuminatis; antheris 7 mm. longis; stylo glabro apice bifido, 4.5 cm. longo; ovario cylindrico, dense hirtello; fructibus cylindricis, apice leviter constrictis, 3 cm. longis, 5 mm. diametro, glabratis lenticellatis; calycis lobis deciduis.

NORTHEASTERN NEW GUINEA: Salamaua, *Kanehira* 4011 (TYPE), February 1937, on beach.

The flowers of *Mussaenda Kanehirae* suggest those of *M. pluvialis* S. Moore both in size and in the caudate-acuminate corolla-lobes, but the inflorescence of the latter is much more open, and the two differ in the type of pubescence present. In the former the hairs are spreading and somewhat softer than in the latter, where they are appressed and directed forward. The petioles of pairs of leaves are unequal, and possibly the leaves would also be anisophyllous if the pairs were available.

*Mussaenda malacotricha* sp. nov.

Planta scandens; ramulis retrorse ferrugineo-hirsutis; foliis chartaceis ovato-ellipticis, 11–16 cm. longis, 5–8 cm. latis, basi rotundatis, apice acuminatis, acumine 1–1.5 cm. longo, supra olivaceis consperse (costa

dense) hirtellis, subtus cinereis molliter subtomentosis vel crispe (costa nervisque dense) hirtellis, nervis primariis utrinsecus 10–14 patentibus versus marginem arcuatim adscendentibus, supra manifestis subtus prominulis, venis utrinque inconspicuis; petiolo 1–1.5 cm. longo ferrugineo-hirtello; stipulis caducis dense hirtellis ?bipartitis; inflorescentiis sessilibus amplis, ramulis patentibus 5–8 cm. longis, ramulis, pedicellis, ovario et calycis lobis dense breviter piloso-hirtellis; pedicellis 2 mm. longis; calycis lobis subulatis, 5 mm. longis, sepalo phyllomorpha magno, 14–15 cm. longo, 8–10 cm. lato, elliptico, apice acuto vel acuminato, basi subrotundato, 1.5–2 cm. petiolato, supra sparsim subtus densius molliter hirtello vel pilosulo; corolla immatura subadpresse hirtella, tubo versus apicem leviter dilatato, apice late ovato obtuso; ovario 5 mm. longo elongato-obconico.

NORTHEASTERN NEW GUINEA: Nabire, *Kanehira & Hatusima 11629* (TYPE), February 1940, alt. 100 m.

The collection most closely approaches the description of *Mussaenda chrysotricha* Val. It differs in the rounded base and the cinereous lower surface of the leaves; the flower-buds are immature, the longest corolla-tube being 2 cm. long, but the pubescence on the corolla does not consist of long hairs; the stipules have fallen except at one node, and here they appear to be parted into subulate segments about 5 mm. long.

*Mussaenda procera* F. M. Bail. Queensl. Agric. Jour. 3: 155 (repr. p. 2). 1898. S. Moore, Proc. Roy. Soc. Queensl. 34: 54. 1922.

BRITISH NEW GUINEA: Rona, Laloki River, *Brass 3571*, March 1933, alt. 450 m., common; on or in shelter of rocks on savanna slopes (bush 1–2 m. high; flowers yellow, petaloid sepal white); Baroka, *Brass 3726*, April 1933, alt. 10 m., common in rain-forests (large rambler or climber; corolla green outside, orange-brown inside); Kanosia, *Carr 11037*, January 1935, sea-level, undergrowth in secondary forest (flowers greenish yellow outside, bright orange inside).

This species has been twice reported for British New Guinea. The description is not wholly satisfactory, but as far as it goes, these collections seem to fit it fairly well except for the much shorter petioles. If the type is extant, the material should be compared with it and a more complete description given from this adequate material.

*Mussaenda Whitei* S. Moore, Proc. Roy. Soc. Queensl. 34: 54. 1922.

NETHERLANDS NEW GUINEA: Balim River, *Brass 11682*, December 1938, alt. 1600 m., occasional on grassy long deforested slopes (shrub 1 m. high).

The collection is a reasonable match for the original description of the type-collection, from Mafulu, British New Guinea, differing chiefly in having longer stipules (1.2 cm.) and shorter petioles (1–1.5 cm.) and cymes not too openly arranged. One inflorescence appears normal with fairly compact clusters of almost sessile flowers; the other is larger (12 cm. long, 15 cm. broad), and in this the calyx-lobes or sepals, instead of developing normally, have all become petaloid and are of varying size. The immature fruit is glabrate, oblong, 1.8 × 0.7 cm., and lenticellate.

### Mycetia Reinwardt

*Mycetia javanica* (Bl.) Reinwardt ex Korthals, Ned. Kruidk. Arch. 2(2): 118. 1850; Valetton, Bot. Jahrb. 60: 68. 1925.

*Bertia javanica* Blume, Bijdr. 987. 1826.

SOLOMON ISLANDS: Guadalcanal: Uulolo, Tutuve Mt., *Kajewski 2645*, May 1931, alt. 1200 m., on land-slides (shrub 2-3 m. high); San Cristobal: Balego-Nagonago, *Brass 2694*, August 1932, alt. 350 m., rain-forest floor, not plentiful (low shrub 0.5-1 m. high; stem very pale grey; leaves grey above, green beneath; fruit white, very fleshy). Java to the Philippines and New Guinea.

### Maschalodesme Lauterbach & K. Schumann

#### *Maschalodesme simplex* sp. nov.

Arbuscula 1.5-2 m. alta non ramosa; trunco apicem versus subtetragono 4 mm. crasso glabro; foliis tenuiter coriaceis glabris, novellis breviter consperse pubescentibus, subsessilibus obovato-oblongis, 26-42 cm. longis, 8-13.5 cm. latis, apice longiuscule acuminatis, in tertio infero gradatim angustatis, basi rotundatis, nervis primariis utrinsecus 16-20, utrinque perspicuis, venis subclathratis utrinque manifestis; petiolo 3-5 mm. longo; stipulis 2 cm. longis ovatis; inflorescentibus axillaribus dense congestis; bracteis 2 cm. longis, ovatis glabris; calyce infundibulari, lobis oblongis acutiusculis, 1-3 mm. longis, extus parce intus dense pubescentibus; corollae tubo 5 mm. longo, fauce pubescente, lobis 2-3 mm. longis, vix 3 mm. latis, obtusiusculis reflexis, in alabastro imbricatis; staminibus 4, circiter 2.5 mm. longis, sessilibus, medio dorso in fauce affixis; ovario in pedicellum 7 mm. longum sensim transeunte; stylo glabro; stigmatate oblongo-subclavato pubescente.

NETHERLANDS NEW GUINEA: 2 km. southwest of Bernhard Camp, Idenburg River, *Brass 13614* (TYPE), March 1939, alt. 700 m., rain-forest undergrowth; Bernhard Camp, Idenburg River, *Brass 13906, 13997*, April 1939, alt. 55 m. and 50 m., in rain-forest occasionally flooded by river. (Unbranched treelet 1-2 m. high; flowers white; fruits red, fleshy).

*Maschalodesme simplex* differs from *M. arborea* Lauterb. & K. Schum. in the larger leaves with closer and more numerous primary veins (in the original species only 8 or 9). The field note of each number indicates an unbranched treelet.

### Lucinaea de Candolle

#### *Lucinaea monantha* sp. nov.

Frutex scandens; ramulis subtetragonis novellis dense setuloso-hirtellis deinde glabratis; foliis coriaceis glabris, 2-5 cm. longis, 0.8-2.3 cm. latis, lanceolato-ellipticis vel ellipticis utrinque angustatis apice leviter attenuato-acutis, basi obtuse cuneatis, supra nigrescentibus subtus fuscis, costa supra manifestis subtus prominulis, nervis lateralibus subobscuris; petiolo 0.5-1 cm. longo glabro nigro; stipulis caducis vaginantim connatis abrupte acuminatis,  $\pm$  7 mm. longis, fere glabris; floribus solitariis terminalibus in apice ramulorum brevium; pedunculis 3-5 mm. longis glabris; involucri cupuliformi integro; floribus 5-meris; calyce campanulato-tubulato subtruncato vel leviter 5-lobato circiter 5 mm. longo glabro; corolla infundibulari, tubo 4 mm. longo, fauce elongato-ampliata basi squamulis 5 dense barbatis subclausa, circiter 1 cm. longa, lobis 4 mm. longis carnosulis apice incrassatis, anguste trigonis; antheris in apice faucis sessilibus semi-exsertis, vix 3 mm. longis; stylo glabro; stigmatate bilobo dense papilloso.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass 11858* (TYPE), January 1939, alt. 1800 m., common in mossy forest (large scandent epiphytic shrub; solitary white fleshy flowers; fruit fleshy, white).

*Lucinaea monantha* closely resembles *L. Schlechteri* Val. in habit and *L. acutifolia* Val. in floral characters. Our species differs from the first in having 5-merous rather than 4-merous flowers, and it may be distinguished from the second by the glabrous peduncles, the shorter broader leaves with venation obscure except for the midrib, and the stouter branches. Both of Valetton's species have 2- or 3-flowered heads, whereas in *L. monantha* the heads are 1-flowered, an unusual character in the genus.

*Lucinaea Schlechteri* Val. Bot. Jahrb. 60: 81. 1925.

An isotype in our herbarium shows more mature flowers than those described in the original publication: heads 2-6-flowered; flowers sessile; calyx campanulate, truncate, 4 mm. long; corolla funnel-shaped, 15 mm. long, the tube  $\pm$  10 mm. long, within above the base 2-3 mm. bearing a ring of hairs, otherwise glabrous; stamens sessile in the throat, the anthers  $\pm$  2.5 mm. long.

*Lucinaea Ledermannii* Val. Bot. Jahrb. 60: 82. 1925.

NETHERLANDS NEW GUINEA: 15 km. southwest of Bernhard Camp, Idenburg River, *Brass 12400*, January 1939, alt. 1500 m., common in rather open rain-forest (large climbing shrub; flowers white); 4 km. southwest of Bernhard Camp, Idenburg River, *Brass 13612*, March 1939, alt. 850 m., occasional in rain-forest (shortly scandent epiphytic shrub; flowers white).

These collections differ from the original description only in having occasionally on the lower surface of the leaves, particularly along the midrib, a rather crisp hairiness. In the latter character suggesting *L. ramiflora* var. *pubinervis* Valetton, the material differs in having the corolla glabrous except for the ring of hairs within near the base.

### Randia Linnaeus

*Randia Schumanniana* nom. nov.

*Randia speciosa* K. Schumann, Fl. Kaiser Wilhelms Land 130. 1889, non DC. (1830).

Although the specific name *speciosa* may have been valid according to International Rules at the time it was established, according to the present Code it is invalid, and we have renamed the species for K. Schumann, who described it. It is known from several localities in Northeastern New Guinea.

*Randia calliantha* sp. nov.

Arbuscula 2-3 m. alta gracilis inflorescentiis exceptis glabra; ramulis  $\pm$  sulcatis cinerascentibus; foliis coriaceis ellipticis vel lanceolato-ellipticis, 4-10 cm. longis, 2-5 cm. latis, utrinque angustatis, apice obtuse acuminatis, acumine 5-10 mm. longo, basi anguste cuneatis, nervis primariis utrinsecus 4-6 oblique adscendentibus vel patentibus prope marginem inconspicuis arcuatis, subtus in axillis domatia minuta ferentibus, venis subobscuris; petiolo 5-8 mm. longo; stipulis caducis; floribus in apice ramulorum 1-3, pedunculo 2-3 mm. longo, pedicellis circiter 2 mm. longis glabris vel pubescentibus; bracteis oppositis connatis in parte superiore libera cuspidatis, circiter 2 mm. longis; calyce campanulato in lobos infra medium diviso, tubo  $\pm$  5 mm. longo pubescente, lobis 5 lineari-lanceolatis, acutis, versus basim utrinque sparsim pubescentibus, 5-7 mm. longis, 1.5-2 mm. latis; corollae tubo 3-4 cm. longo extus glabro, intus fauce crispe



pilosulo deorsum sensim glabro, lobis 5 lanceolatis obtusis, 2 cm. longis, 6–7 mm. latis, supra prope faucem pubescentibus; antheris 11 mm. longis, apice circiter 4 mm. infra faucis marginem; stylo glabro, stigmatibus lobis oblongis rotundatis, 3 mm. longis; ovario 2–3 mm. longo  $\pm$  pubescente; fructibus immaturis, 2-loculatis, glabris.

BRITISH NEW GUINEA: Wuroi, Oriomo River, *Brass* 5718 (TYPE), January 1934, alt. 10 m., undergrowth in light rain-forest (slender bush 2–3 m. tall; large fragrant white flowers).

This plant has the same general habit of *Randia Cumingiana* Vidal of the Philippines. It differs obviously in having flowers at least twice the size of those of the Philippine species. In Merr. Enum. Philip. Fl. Pl. 3: 527. 1923, the combination *Randia microcarpa* (Bartl.) Merr. is listed as the older name for *Randia Cumingiana* Vidal. This is true, but unfortunately the specific name *microcarpa* was already pre-empted by Mociño & Sessé (1887–1890), and hence the name *R. Cumingiana* Vidal should be retained for the Philippine species.

*Randia decora* Val. Bot. Jahrb. 60: 90. 1925, Nova Guin. Bot. 14: 266. 1925; vel aff.

BRITISH NEW GUINEA: Dieni, Ononge Road, *Brass* 3887, April 1933, alt. 500 m., bank of a rain-forest stream (slender tree 12 m. tall; large cream-colored flowers).

This species has been reported for both Netherlands New Guinea and Northeastern New Guinea. This specimen is too near the original description to place it elsewhere without a comparison with the type. It should be pointed out, however, that the leaves are 20–38 cm. long, 5–13.5 cm. broad, the inflorescence is about 5- or 6-flowered, branching about 5 mm. above the base of the peduncle then again  $\pm$  dichotomously, giving the impression of an irregular cyme rather than a corymb, the pedicels are 1.5–2 cm. long, the calyx is definitely dentate, the teeth being about 1.5 mm. long and broad, the tube of the corolla is glabrous outside, within, the anthers, instead of being partly exerted as in most species, are included, the apiculate apex being about 3 mm. below the margin of the throat, and about in the middle of the tube is a band  $\pm$  5 mm. wide of crisp hairs. Valetton does not tell anything about the inner surface of the corolla tube, although he does mention the hairiness within the tube in *Randia sphaerocarpa* Lauterb. & K. Schum. The latter species differs in the much longer calyx-lobes.

*Randia sessilis* F. v. Muell. Fragm. Phytogr. Austr. 7: 47. 1869; F. M. Bail. Queensl. Fl. 3: 754. 1900; C. T. White, Contr. Arnold Arb. 4: 98. 1933.

*Randia Macarthuri* sensu Val. Nova Guin. 8: 466. 1911; non F. v. Muell. (1876).

BRITISH NEW GUINEA: Oriomo River, Dagwa, *Brass* 5993, February 1934, alt. 40 m., creek-bank gallery forest, rare (small tree 4 m. tall; leaves glabrous, shining; rather large white flowers; rufous brown globose fruit  $\pm$  3 cm. diameter); Tarara, Wassi Kussa River, *Brass* 8683, January 1937, common in rain-forest undergrowth (tree 3–5 m.; flowers white; fruit brown, scurfy, up to 4 cm. diameter).

These collections are a very good match for the two Australian specimens under this name in our herbarium, even to the appressed hairs on the inner surface of the calyx-remnants crowning the fruits. They also seem to agree with Valetton's elaborated description of *Randia Macarthuri*, which unfortunately is a misidentification.

*Randia Macarthurii* F. v. Muell. Notes on Pap. Pl. I: 68. 1876; Becc. in D'Albertis, Nov. Guin. 2: 397. 1880; F. M. Bail. Queensl. Agric. Jour. 24: 22. 1910.

*Randia Versteegii* Val. Nova Guin. 8: 466. 1911, op. cit. 14: 266. 1925.

*Gardenia Klossii* Wernh. in Ridl. Trans. Linn. Soc. II. Bot. 9: 72. 1916.

BRITISH NEW GUINEA: Palmer River, 2 miles below junction Black River, *Brass* 7365, August 1936, alt. 100 m., river banks (attractive small tree with white honeysuckle scented flowers); Fly River, between junctions Alice and Elevata Rivers, *Brass* 7389, river banks (small tree conspicuous on banks; flowers cream-colored; fruit subglobose,  $\pm$  6 cm. long, 5.5 cm. diameter); Lower Fly River, east bank opposite Sturt Island, *Brass* 8011, October 1936, flood plain rain-forests (substage tree 10 m. high; flowers yellow-white, honeysuckle scented).

Through the kindness of Mr. H. W. Jessep, Director of the Melbourne Botanic Gardens, we have received a flower from the type specimen of *Randia Macarthurii* F. v. Muell. This agrees in every way with that of *Brass* 7365. The inflorescence of this plant is branched and is a perfect match for Valetton's description of *R. Versteegii*. The other two collections cited appear to be conspecific. Mostly the inflorescence is fewer-flowered (3-5), but in one instance it is branched near the base much as in *Brass* 7365, which leads us to suspect that the suppression of branches of the inflorescence is due to some influence of habitat rather than an inherent character of the plant. In addition to the somewhat simpler inflorescence, it may be noted that the calyx is slightly longer and the corolla-tube a little shorter than in *Brass* 7365. Possibly the two with simpler inflorescences represent *R. Klossii* (Wernh.) Val., but it is to be noted that none of the measurements given in Wernham's original description are exclusive of those given in *R. Versteegii* Val. to which Wernham says it is related. All three types ought to be compared. With the material at hand, however, we cannot at present see more than one species.

*Randia bernhardensis* sp. nov.

Arbuscula? glabra, floribus exceptis; ramulis brunnescentibus teretiusculis cortice striato-sulcatis; foliis anguste ellipticis, 12-14.5 cm. longis, 6 cm. latis, basi cuneatis, apice acutiusculis vel breviter acuminatis, nervis lateralibus utrinsecus circiter 8 patenti-adscendentibus utrinque prominulis, venis subobscuris; stipulis lanceolatis caducis; petiolo  $\pm$  2 cm. longo glabro; ramo inflorescentiam ferente brevi oppositifolio; inflorescentiis vix ramosis, bracteis confertis, floribus fasciculatis; pedicellis  $\pm$  5 mm. longis, glabris; calyce campanulato glabro 3 mm. longo, apice 5-crenulato margine ciliolato; corolla (in alabastro tantum visa) 3 cm. longa, tubo extus subtomentoso, 1.8 cm. longo, intus supra medium (1 cm.) dense adpresse villosulo, ceterum glabro; lobis 1.5 cm. longis extus glabris, intus basim versus tomentosus; antheris 8 mm. longis apice apiculatis; stylo glabro, ovario 2-2.5 mm. longo, glabro.

NETHERLANDS NEW GUINEA: Hollandia, Bernhard Camp, *Neth. Ind. For. Service* bb.25725 (TYPE), August 1938, alt.  $\pm$  50 m.

The flowers of *Randia bernhardensis* differ from those of other species of *Randia* which we have examined in the densely hairy inner surface of the upper half of the corolla-tube. The other species with corolla-tubes so densely pubescent outside usually have the lower part within shortly villous

or at least with a ring of hairs near the base. These also have a more obviously branched inflorescence.

*Randia dryadum* (S. Moore) comb. nov.

*Gardenia dryadum* S. Moore, Jour. Bot. 65: 246. 1927, Jour. Arnold Arb. 10: 267. 1929.

BRITISH NEW GUINEA: Rona, Laloki River, *Brass 3679*, March 1933, alt. 450 m., rain-forest, rare (small second storey tree with close grey bark; dull pale nerved leaves, yellowish underneath; fruit solitary in axils of leaves, green, covered with pale brown scurfy scales); Auga River at Mafulu, *Brass 5499*, November 1933, alt. 580 m., riverine rain-forest (small tree with white flowers); Lower Fly River, east bank opposite Sturt Island, *Brass 8016*, October 1936, rain-forest (substage tree 10-12 m. high, restricted to low flood plains; flowers cream-colored, corolla-lobes reflexed; fruit grey-brown scurfy, compressed-ovoid,  $\pm$  6.5 cm. long, 6 cm. diameter). SOLOMON ISLANDS: U l a w a : *Brass 2953*, October 1932, swampy rain-forest (shapely tree 4 m. tall; leaves smooth and shining; flower white; fruit nearly globose, 4.5  $\times$  4 cm., covered with pale brown mealy scurf); Y s a b e l : Meringe, *Brass 3300*, December 1932, alt. 100 m., rain-forests on limestone hills (compact small tree; leaves shining, midrib pale; flowers cream-colored; fruit hard, pale brown, scurfy, about 4  $\times$  3 cm.).

The above-cited specimens all agree in general habit, color of bark, shape of stipules, flowers where seen (some variation exists in the length of the corolla-lobes), and leaf-outline. The leaves were described as emarginate at the apex. In the isotype at hand, practically all the leaf-tips are injured. In some of the other specimens the leaves are obtusish or slightly contracted near the apex, giving the impression of being very shortly and obtusely acuminate, a character more marked in the material cited from the Solomon Islands than in that from New Guinea; also in the Solomon Islands material the corolla-lobes are longer. These scarcely seem to be specific differences. In *Brass 3679*, where the field-note indicates "fruit solitary in the axils," it appears that only one fruit develops from an inflorescence; these fruits are immature but seem to match very well those of *Brass 8016*, which are practically mature. The fruits are unquestionably those of the genus *Randia*. The outer covering of the pericarp is scurfy, the scales of the younger fruit somewhat lighter in color, the seeds, imbedded in pulp, are smoothish, slightly compressed, ovoid or ellipsoid, and about 5 mm. long and 3.5 mm. diameter. The species ought to be compared with *Randia albituba* Val. Bot. Jahrb. 60: 92. 1925, from the Bismarck Archipelago.

*Randia Gaudichaudii* Val. Not. Syst. 3: 54. 1914.

SOLOMON ISLANDS: Y s a b e l : Meringe, *Brass 3180*, November 1932, littoral rain-forests, common (handsome small tree; flower white; fruit smooth, red); N ' G e l a : Navotana, *Brass 3239*, November 1932, steep foreshores (compact small tree 8 m. tall; leaves smooth and shining [dull when dry]; flower white; fruit red, fleshy); north end of N'Gela, *Brass 3511*, January 1933, alt. 75 m., hill rain-forests (erect trees 10 m. tall; bark thick, uneven brown, yellow when cut; wood hard, yellow; flower white; fruit very small, smooth, red).

These collections appear to fit reasonably well the description of *Randia Gaudichaudii* Val., except the anthers are a centimeter long (in the description 1 mm., probably a typographical error), and the fruit is pisiform rather than pyriform. Valetton's type was from Rawak (on more modern maps Lawak) Island, near the coast of Waigeo.

**Randia spicata** Val. Nova Guin. Bot. 8: 468. 1911, op. cit. 14: 267. 1925.

BRITISH NEW GUINEA: Kubuna, *Brass* 5574, Nov. 1933, alt. 100 m., forest on low ridges (slender tree of 2nd storey; flowers white; fruit immature); Koitaki, *Carr* 12555, June 1935, alt. about 450 m., forest (tree 6 m. tall; fruit green).

In the material cited above, which we take from the description to be this species, the flowers are more mature than those described in the type. The calyx is 3.5 mm. long, puberulous, 5-dentate, glabrous within except for glands clustered around the sinuses; corolla tube 1.5–2 cm. long, glabrous except for a few occasional hairs between the anthers; anthers 5–6 mm. long, apiculate, about half exerted; style glabrous, stigma-lobes oblong or slightly lanceolate, striate.

**Randia uncaria** Elmer, Leaf. Philip. Bot. 1: 30. 1906; Merr. Philip. Jour. Sci. 1: Suppl. 130. 1906, Enum. Philip. Fl. Pl. 3: 529. 1923.

BRITISH NEW GUINEA: Lower Fly River, east bank opposite Sturt Island, *Brass* 7988, rain-forest (large canopy liane climbing by paired hooked thorns; flowers white, fragrant). Previously known only from the Philippines.

**Randia macromera** Lauterb. & K. Schum. in K. Schum. & Lauterb. Fl. Deutsch. Schutzgeb. Südsee 563. 1900; Val. Bot. Jahrb. 60: 90. 1925.

The nomenclatural status of *Randia macromera* Lauterb. & K. Schum. versus *R. megalocarpa* K. Schum., Fl. Kaiser Wilhelms Land 131. 1889, needs reconsideration. In view of the reported loss of the Berlin Herbarium, it would be necessary to examine isotypes if any such are extant. Schumann & Lauterbach reduced *R. megalocarpa* K. Schum. to *R. speciosa* K. Schum., l. c. p. 564. Valetton, on the other hand, placed *R. megalocarpa* K. Schum. in the synonymy of *R. macromera* Lauterb. & K. Schum. citing the former as "nomen tantum." This is hardly the case, as Schumann's explanatory note concerning *Hollrung* 497 is accepted as a description by Professor Rehder, a well known authority on nomenclature. Probably when sufficient flowering and fruiting material of all the species concerned has been collected the nomenclature can be straightened out.

### Gardenia Ellis

**Gardenia Archboldiana** sp. nov.

Arbuscula epiphytica 5–10 m. alta; ramulis subteretibus cortice pallido lenticellato; internodio ultimo hirtello; foliis plerumque anisophyllis coriaceis glabris, 8–24 cm. longis, 4.5–12 cm. latis, ellipticis vel obovato-ellipticis utrinque angustatis, basi cuneatis, apice breviter acuminatis, acumine basi 1–1.5 cm. lato totidemque longo obtusiusculo, nervis primariis utrinsecus 7–10 patentibus prope marginem arcuatis, supra manifestis, subtus perspicuis in axillis domatia ferentibus, reticulo denso manifesto non prominulo; petiolo 0.5–1.5 cm. longo glabro; stipulis 2–3.5 cm. longis, 1–1.5 cm. latis, apice anguste obtusis vel acutiusculis, extus parce hirtellis; floribus in apice ramulorum breviter pedicellatis, pedicellis 5 mm. longis; calyce spathaceo-tubulato, 5.5–7 cm. longo, apice irregulariter breviter  $\pm$  6-fisso, laciniis rotundatis vel subtruncatis marginem versus pilosis; corolla hypocrateriformi, tubo 11–17 cm. longo, 2–3 cm. crasso, prope faucem sensim dilatato, fauce pilosa, lobis subrhomboideo-ovatis, 3 cm. longis, 2 cm. latis, apice emarginatis; antheris  $\pm$  1 cm. longis in apice faucis sessilibus partim

exsertis; ovario 7 mm. longo, hirtello; stylo apice ( $\pm$  2 cm.) hirsuto ceterum glabro; fructu immaturo ellipsoideo 4 cm. longo, 2.5 cm. diametro, apice calyce tubulato 8 cm. longo coronato.

NETHERLANDS NEW GUINEA: 4 km. southwest of Bernhard Camp, Idenburg River, *Brass 13229* (TYPE), common epiphyte in flood-plain rain-forest (tree 5–10 m. high; flowers white, later yellow).

*Gardenia Archboldiana* probably belongs in the same group with *G. Lamingtonii* F. M. Bail.; however, in the former the leaves are larger and more coriaceous, the calyx-tube, although incised, is truncate rather than oblique at the apex, the corolla-lobes are subrhombic-ovate rather than oblong, and the anthers are partly exserted.

*Gardenia Lamingtonii* F. M. Bail. Queensl. Agric. Jour. 3(2): 155 (repr. p. 2). 1898; Val. Nova Guin. Bot. 14: 268. 1925; vel aff.

BRITISH NEW GUINEA: Palmer River, 2 miles below junction Black River, *Brass 7317*, July 1936, alt. 100 m., river flood-plain forest (arborescent hemi-epiphyte growing on tall canopy tree; corolla tube 18–21 cm. long, yellow, later orange; fruit spherical, tuberculate, yellow, 4–4.3 cm. diameter). NETHERLANDS NEW GUINEA: 6 km. southwest of Bernhard Camp, Idenburg River, *Brass 12918*, February 1939, rain-forest (substage tree 12 m. high; fruit orange-colored).

The collection in flower corresponds reasonably well with Valetton's description of *Gardenia siphonocalyx* except that the anthers are not exserted. On Wernham's verification, he reduced his species to *G. Lamingtonii* F. M. Bail. He does not mention the character of the anthers given in Bailey's original description, "the base produced into a filiform appendage about  $\frac{1}{2}$ -in. long," or the "ovary 6-ribbed"; these may be variable characters, or may not be noticeable in dried material (Bailey wrote his descriptions from fresh material he collected on a trip to New Guinea); at any rate neither of these characteristics appears in the specimens above cited.

*Gardenia pallens* sp. nov.

Frutex vel arbuscula glabra; ramulis teretibus vel obtuse angulatis, cortice pallido lenticellato; foliis plerumque leviter anisophyllis coriaceis, 3.5–11 cm. longis, 2–5.5 cm. latis, ellipticis, basi obtusis vel subrotundatis vel late cuneatis, apice abrupte breviter acuminatis, acumine 0.6–1 cm. longo acutiusculo, nervis primariis utrinsecus 6–9 patentibus prope marginem arcuatis supra distinctis, subtus prominulis in axillis domatia minuta ferentibus, reticulo in foliis novellis laxo, maturis obscuro; petiolo 0.5–1.2 cm. longo; stipulis membranaceis, 1.2–1.8 cm. longis, uno latere connatis (apice verisimiliter emarginatis); floribus in apice ramulorum pedicellatis, pedicellis  $\pm$  5 mm. longis glabris; calyce spathaceo-tubulato, 1.5–2 cm. longo, uno latere ab apice circiter 8 mm. partito emarginato glabro; corolla hypocrateriformi, tubo 5.5–7 cm. longo apicem versus leviter dilatato, fauce glabro, lobis plerumque 6 (5–7), subrhomboideo-ovatis, 1.5–2 cm. longis, 1–1.5 cm. latis, obtusis; antheris 1 cm. longis in apice faucis sessilibus apice exsertis; ovario vix 5 mm. longo glabro, stylo deorsum glabro ad apicem hirtello, stigmatis lobis conglobatis; fructu immaturo ellipsoideo, 3.5 cm. longo, 2 cm. lato, apice calyce tubuloso 2.5 cm. longo coronato.

NETHERLANDS NEW GUINEA: Balim River, *Brass 11614*, December 1938, alt. 1700 m.,

deforested slopes, common on grassy second growths (tree 3 m. high; flowers cream-colored, later yellow); same locality, *Brass 11695* (TYPE), December 1938, alt. 1600 m., occasional in grassy edges of forest (shrub 2 m. high; flowers fragrant, white, later orange).

*Gardenia pallens* is probably related to *G. Forbesii* Val., if the latter name is to be regarded as validly published; Valetton's binomial appears in the key to the genus, *Bot. Jahrb.* 60: 99. 1925. This alone would give the name only the status of a *nomen subnudum*, but when one considers the description which Valetton gave of the flower of *Forbes 467* in his original description of *G. siphonocalyx* Val., *Nova Guin.* 8: 470. 1911, his dissatisfaction of this disposition of the collection, *op. cit.* 8: 758. 1912, his tentative alliance of the specimen with *G. Gjellerupii* Val., and still later, *op. cit.* 14: 268. 1925, his expressed opinion that it must be considered as an independent species or subspecies along with *G. Gjellerupii* Val. and *G. Lamingtonii* F. M. Bail., one is inclined to believe that Valetton clearly intended *G. Forbesii* Val. to be represented by the specimen *Forbes 467*. If so, a sufficiently detailed description of the flower was given to establish this as a species. Professor Rehder has suggested that all that is necessary to establish this species without any doubt is the examination of a specimen so labeled by Valetton; this, of course, is impracticable at the present time. *Gardenia pallens* differs from the other species with somewhat spathe-like tubular calyces in the glabrous throat of the corolla and the partly exerted anthers. The fruits are immature, the endocarp appearing only as a very thin crustaceous layer, the seeds are still too small to show any particularly distinctive characters.

*Gardenia vernicosa* sp. nov.

Arbor 10 m. alta; ramulis glabris, novellis resiniferis, internodiis brevibus (in specimine typico tantum 0.7–1 cm. longis); stipulis coriaceis subpersistentibus ramulos ultimos annulatim vaginantibus; foliis tenuiter coriaceis vernicosis glabris ellipticis, 9–19 cm. longis, 4.5–8 cm. latis, utrinque angustatis, basi cuneatis, apice acuminatis, acumine 0.6–1 cm. longo obtuso, nervis primariis utrinsecus 11–14 patentibus prope marginem abrupte arcuatis utrinque prominulis subtus in axillis domatia minuta ferentibus, venis nervis fere perpendicularibus inconspicue manifestis, reticulo laxo; petiolo 0.8–1.5 cm. longo, resinifero; floribus in axillis superioribus; pedicellis circiter 7 mm. longis glabris; calyce 4-partito; lobis 2 cm. longis, versus basim 3 mm. versus apicem 5 mm. latis, lineari-spathulatis, venosis glabris; corollae tubo 8 cm. longo extus glabro, intus supra medium pubescente, lobis 6 ellipticis, 3 cm. longis,  $\pm$  1.5 cm. latis; antheris 6 linearibus 1.8 cm. longis paullo exsertis; stylo  $\pm$  5.5 cm. longo glabro; ovario circiter 6 mm. longo resinoso.

SOLOMON ISLANDS: San Cristobal: Star Harbor, *Brass 3093* (TYPE), October 1932, foreshore hills (densely foliaged tree 10 m. tall; leaves very glossy, paler beneath; corolla-tube green, the lobes white; flowers heavily perfumed).

In general habit this species strongly resembles *Gardenia Storckii* Oliv., but the leaves are larger, and the corolla-tube is about three times as long as the calyx-lobes. It should be noted that here the style is much shorter than the corolla-tube.

### Mastixiodendron Melchior

In Jour. Arnold Arb. 23: 416. 1942, we have called attention to the fact that *Mastixiodendron* Melch., established to take care of *Fagraea pachyclados* K. Schum. Fl. Deutsch. Schutzgeb. Südsee Nachtr. 564. 1905, belongs to the Rubiaceae rather than to the Cornaceae, wherein it was originally placed, Bot. Jahrb. 60: 167. 1925. In checking over the unnamed Rubiaceae, we find a collection from Halmahera, *Netherlands Indian Forest Service* bb. 24870, May 1, 1940, which, although in fruit only, appears to be congeneric with the New Guinea collections. Hence the genus is no longer to be considered as endemic in New Guinea.

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